THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE AS FOLLOWS:

1. A process for the preparation of tetrahydrothieno[3,2-c]pyridine derivatives of the general formula 6:

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or their pharmaceutically acceptable salts, wherein the meaning of X is carboxyl, alkoxycarbonyl, aryloxycarbonyl, or carbamoyl of formula

$$-\overset{O}{\overset{\parallel}{\text{C}}}-\overset{R_1}{\overset{R_2}{\text{N}}}$$

wherein R₁ and R₂ can be individually or simultaneously hydrogen, alkyl or part of a heterocyclic structure; Z can be hydrogen, halogen, alkyl, aryl, aryloxy or alkoxy group, the process comprising conducting a dehydroxylation reaction on the compound of formula 5 in order to obtain a compound of formula 6, wherein said dehydroxylation reaction is effected by iodosilane represented by the formula Si(R₃)₃I, wherein R₃ selected from an alkyl, alkenyl, alkynyl, aromatic group, or combinations of thereof.

- 2. The process of Claim 1 wherein said iodosilane is iodotrimethylsilane (TMSI).
- 3. The process of Claim 1 or 2 wherein said iodosilane is generated *in situ* in the reaction between chlorosilanes of formula $Si(R_4)_3Cl$ and sodium iodide, wherein R_4 is selected from an alkyl, alkenyl, alkynyl, or aromatic group, or combinations of thereof.
- 4. The process of Claim 3 wherein said chlorosilanes is chlorotrimethylsilane.
- 5. The process of Claim 1 wherein the compound of formula 6 is racemic or enantiomerically enriched Clopidogrel or pharmaceutical salts thereof.
- 6. The process of Claim 1 or 2 wherein the compound of formula **5** is in a free base form or in a salt form.
- 7. The process of Claim 1 wherein the reaction is conducted under a polar aprotic solvent, an aromatic solvent , or mixtures thereof.
- 8. The process of Claim 7 wherein the polar aprotic solvent is selected from acetonitrile, CH_2Cl_2 , N, N'-dimethylformamide and combinations thereof.
- 9. The process of Claim 7 wherein the aromatic solvent is selected from toluene and equivalent thereof.
- 10. A process for the preparation of compound of formula 1 or its pharmaceutically

acceptable salts thereof, comprising conducting a dehydroxylation reaction on the compound of formula 9 or its salts thereof, wherein said dehydroxylation reaction is effected by iodotrimethylsilane (TMSI).

- 11. The process of Claim 10 wherein the reaction is conducted under a polar aprotic solvent, an aromatic solvent , or mixtures thereof.
- 12. The process of Claim 11 wherein the polar aprotic solvent is selected from acetonitrile, CH₂Cl₂, *N*, *N'*-dimethylformamide and combinations thereof.
- 13. The process of Claim 11 wherein the aromatic solvent is selected from toluene and equivalent thereof.